[0035] The OLED module **100** includes an OLED panel **120** in addition to the first and the second frames **130** and **110**.

[0036] As shown in FIG. **3**, light emitting surface (hereinafter, referred to as "front surface") from which light is emitted in a z-direction in FIGS. **1** and **2** may be divided into a light emitting region B, where an image corresponding to input electrical signals is displayed, and a non-light emitting region C (see FIG. **3**).

[0037] An optical film **121** for improving an image quality is formed at the light emitting region B. Another aspect is a driving integrated circuit (driving IC) **127** for driving the OLED panel **120** and a flexible printed circuit board (FPCB) for connecting the driving IC **127** to a substrate are installed at the non-light emitting region C.

[0038] The non-light emitting region C at which the driving IC **127** and the FPCB **129** are installed may be referred to as "pad region".

[0039] The OLED panel **120** includes a plurality of pixels that are basic elements for displaying the image.

[0040] The pixels are arranged in a matrix pattern on the panel. If the OLED panel is an active matrix type, the pixels each include an OLED that displays an image by self-emitting light and a semiconductor device for driving the OLED.

[0041] Therefore, the pixels display an image by self-emitting light through the light emitting region B in accordance with external signals.

[0042] Various OLED and semiconductor elements may be used. Therefore, the invention is not limited to a particular type of OLED or semiconductor.

[0043] The second frame **110** is formed in a rectangular parallelepiped shape having an opened surface facing the OLED panel **120**. The second frame **110** includes an opening portion **113** for exposing the light emitting region B of the OLED panel **120** and a convex portion **111** formed along an inner circumference thereof.

[0044] The opening portion **113** is formed to correspond to the light emitting region B and has a similar area to the light emitting region B so as not to block the light emitted from the light emitting region.

[0045] The convex portion **111** is a protrusion having a semicircular section to function as a part of a coupling structure for coupling the second frame **110** to the first frame **130**.

[0046] The convex portion **111** may be formed on all inner surfaces (four inner surfaces) or fewer than all surfaces, for example, the convex portion **111** may be formed on only two inner surfaces facing each other.

[0047] In this embodiment, the first frame **130** is formed in a rectangular parallelepiped shape having an open surface (top surface in the drawings). The first frame **130** has an inner space **133** for receiving the OLED panel **120**, as shown.

[0048] The OLED panel **120** is received in the first frame **130** such that it can emit the light toward the open portion of the first frame **130**.

[0049] In addition, a concave portion **131** that will be engaged with the convex portion **111** of the second frame **110** is formed on an outer surface of the first frame **130**.

[0050] In some embodiments, the concave portion **131** is a recess having a semicircular section to function as a part of the coupling structure for coupling the second frame **110** to the first frame **130**.

[0051] The concave portion **131** may, for example, be formed on all outer side surfaces (four outer side surfaces) or two outer side surfaces facing each other as necessary.

[0052] Since the convex and concave portions **131** and **111** are engaged with each other, they may be formed to correspond to each other.

[0053] Shapes of the first and second frames may vary depending on, for example, a shape of the OLED panel.

[0054] In addition, sectional shapes of the convex and concave portions are not limited to the above-described semicircular shape. The sectional shapes of the convex and concave portions may vary as they couple the first and second frames to each other.

[0055] For example, the sectional shapes of the concave and convex portions may be a triangular shape, a trapezoidal shape, an oval shape, and/or a hook shape.

[0056] The first and second frames **130** and **110** may be formed of stainless steel.

[0057] Alternatively, the first and second frames **130** and **110** may be formed of cold rolled steel considering manufacturing cost and strength. Alternatively, the first and second frames **130** and **110** may be formed of aluminum, a nickel-silver alloy, magnesium, a magnesium alloy, or a polymer resin considering weight. The materials of the first frame **130** and the second frame **110** are not limited.

[0058] The following will describe an assembly process of the OLED panel **120** and the first and second frames **130** and **110**.

[0059] The OLED panel **120** is placed in the inner space **133** of the first frame **130** such that the front surface of the OLED **120** faces out of the first frame **130**.

[0060] Accordingly, the surfaces of the OLED panel **120** other than the front surface are protected by the first frame **130**. That is, the side and rear surfaces of the OLED panel **120** can be protected by the first frame **130**.

[0061] The second frame **110** is subsequently coupled to the first frame **130** such that the opening portion **113** of the second frame **110** corresponds to the light emitting region B of the OLED panel **120**.

[0062] In this embodiment, because the second frame **110** covers the first frame **130**, the side surfaces of the second frame **110** are located on the outer surfaces of the first frame **130**. The convex portion **111** of the second frame **110** is engaged with the concave portion **131** of the first frame **130**, thereby securely fixing the first and second frames **130** and **110** to each other.

[0063] Since the opening portion **113** of the second frame **110** corresponds to substantially only the light emitting region B of the OLED panel **120**, the non-light emitting region C of the OLED panel, at which the driving IC **127** is formed, is covered and protected by the second frame **110**.

[0064] Therefore, because the front surface of the OLED panel **10** is shielded and protected from direct external impact, durability of the OLED module **100** is improved.

[0065] In addition, since the first and second frames are securely coupled to each other to define a complete rectangular parallelepiped body, the OLED module **100** is not easily deformed by twisting and bending loads.

[0066] The following will describe the OLED module **100** in more detail with reference to FIGS. **3** and **4**.

[0067] FIG. **3** is a schematic front view of the OLED module of FIG. **1**.

[0068] FIG. **4** is a cross-sectional view taken along line IV-IV of FIG. **3**.

[0069] The enlarged circle of FIG. **4** illustrates a state where the convex portion **111** and the concave portion **131** are engaged with each other.